

MEMORANDUM FOR: Distribution

FROM: W/OPS1 - John McNulty

SUBJECT: Radiosonde Surface Observing Instrumentation System (RSOIS)
Installation

1 Material Transmitted:

Engineering Handbook No. 9 (EHB-9), RSOIS Modification Note 2, Radiosonde Surface Observing Instrumentation System (RSOIS) Installation.

2 Summary:

This modification note provides RSOIS installation instructions.

3 Effect on Other Instructions:

None.

Distribution:

RSOIS MODIFICATION NOTE 2 (for Electronics Technicians)
Maintenance, Logistics, and Acquisition Division
W/OPS12: FJZ

SUBJECT : Radiosonde Surface Observing Instrumentation System (RSOIS)
Installation

PURPOSE : To provide RSOIS installation instructions

EQUIPMENT : RSOIS
AFFECTED

PARTS REQUIRED : Table 1 lists the items in the installation kit issued by the National
Logistics Support Center (NLSC) to affected upper air sites. Sites are
responsible for ordering the items listed in table 2.

Table 1- System Installation Kit

Container No.	Content
K1	Base station, power cable, antenna cable, RS232 terminal cable
K2	5' Lightning rod, 5' L-shaped cross arm, three - 8' copper clad grounding rods, 12" copper grounding strap with attached aluminum bracket, three aluminum brackets, three copper brackets, two U-bolt assemblies complete with hardware (washer, lock washer, and 7/16" nuts), and approximately 20" twisted copper wire
K3	425AHW wind sensor, connecting cable, adapter/mounting cup with hose clamp, and a bag of bird spikes (5)
K4	6' Wind sensor arm with mounting hardware [6 U-bolts with washers (2), lock washers (2), 7/16" nuts (2), and square retaining bracket]
K5	Remote Processing Unit (RPU) enclosure w/mounting plates, U-bolt assemblies, 5/16-inch bolts, and desiccant
K6	Directional antenna w/mounting U-bolts and antenna cable
K7	Aspirated shield w/pre-installed mounting bracket, U-bolt, and hose clamp
K8	RPU Battery

Table 2 - Site Furnished Installation Material

Item	Item
Waterproof enclosure (outlet box) available (or installed) with electrical service, two 15 ampere circuit breakers, and single rotation hardware	14/2 solid copper wire Green shrink wrap (¼ inch) Electrician's putty (commercial grade) Self-vulcanizing (Scotch 70 type) tape
Rigid right angle deep single gang covered outlet box w/ three 1" threaded holes and exterior-use ground fault interrupted 115 VAC 15 ampere duplex convenience outlet	Dielectric compound (Dow Corning DC4 or equivalent) General purpose lubricants and cleaning solvents (rated to -40°C)
Assorted UV-resistant tie-wraps (4 to 6" length)	Brushes and rags
1" Liquitite non-metallic conduit (length is site-specific)	

TOOLS AND TEST EQUIPMENT REQUIRED : Table 3 lists the tools and test equipment sites must have to install the RSOIS.

Table 3 - Installation Tools and Test Equipment

Item	Item
Ground resistance test kit, AEMC Model 3630 (if required)	Notebook computer with ProCOMM V 4.7 (ASN: S100-TE318-2) (any terminal type software can be used, i.e., hyper terminal, etc.)
Digital multi meter Measure 425AHW shunt resistor resistance value)	
Variable speed drill	Small side diagonal cutters
5/16" Drill bit	3/16" Allen key
Socket wrench	Field compass
1" Open-end wrench	7/16" Open-end wrench
Adjustable wrench	9/16" Deep socket
Climbing harness	Heat gun
7/16" Deep socket	Pliers
5/16" Nut driver	Solar noon alignment tool, NWS S200-TE-316
1/8" Flat-blade screwdriver	

MODIFICATION PROCUREMENT : System installation kit to be provided to affected sites.

SITES AFFECTED : See attachment A.

ESTIMATED TIME REQUIRED : 12 staff hours to install the system upgrade

EFFECT ON OTHER : None.
INSTRUCTIONS

AUTHORIZATION : This modification note is authorized by the Maintenance Branch (W/OPS12).

VERIFICATION : Installation procedures in this modification note were successfully
STATEMENT completed at eight initial implementation upgrade sites (see attachment A).

DISPOSITION OF : Not applicable.
REPLACED ITEMS

TECHNICAL : For questions or problems pertaining to this modification procedure,
ASSISTANCE contact Franz J. G. Zichy at (301) 713-1833 x128.

GENERAL:

The RSOIS is an automated surface observing system used by the NWS to report sensor data for radiosonde (rawinsonde) development and observation. The system baselines surface data for radiosonde (rawinsonde) launches, standardizes dew point and relative humidity accuracy, and implements firmware improvements to algorithms and communications.

PROCEDURE:

Descriptive information; pre-installation requirements; and detailed installation, setup, and system administration procedures are contained in Section 3 of the *RSOIS Organization Level Maintenance Manual* supplied for each system. Appendix B of the manual contains a checklist to record successive steps in the installation process.

REPORTING INSTRUCTIONS:

Report completed installation on a WS Form A-26, Maintenance Record, using the instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), Part 2, and Appendix J. A sample A-26 form is attached. As an additional guide, use the information in the following table.

Block #	Block Type	Information
5	Description	Installation of Radiosonde Surface observing Instrumentation System (RSOIS) production system
7	Equipment Code	RSOIS
8	Serial Number	XXXX
15	Comments	Completed RSOIS installation I.A.W. RSOIS Modification Note 2
17a	Mod. No.	2

John McNulty
Chief, Maintenance, Logistics, and Acquisition Division

Attachment A - RSOIS Site Effectivity List
Attachment B - WS Form A-26 Sample

ATTACHMENT A**RSOIS Site Effectivity List**

Sites in **bold** face type have Initial Implementation Upgrade systems installed under RSOIS Modification Note 1.

Eastern Region Sites

Albany, NY (ALY)	Buffalo, NY (BUF)	Caribou, ME (CAR)
Charleston, SC (CHS)	Chatham, MA (CHH)	Cincinnati, OH (ILN)
Greensboro, NC (GSO)	Morehead City, NC (MHX)	New York City, NY (OKX)
Pittsburgh, PA (PBZ)	Portland, ME (GYX)	Roanoke, VA (RNK)
Washington DC (LWX)		

Central Region Sites

Aberdeen, SD (ABR)	Bismarck, ND (BIS)	Central IL, IL (ILX)
Denver, CO (DNR)	Detroit, MI (DTX)	Dodge City, KS (DDC)
Grand Junction, CO (GJT)	Green Bay, WI (GRB)	International Falls, MN (INL)
Minneapolis, MN (MPX)	North Central Lower MI, MI (APX)	North Platte, NE (LBF)
Omaha, NE (OAX)	Quad Cities, IA (DVN)	Rapid City, SD (UNR)
Riverton, WY (RIW)	Springfield, MO (SGF)	Topeka, KS (TOP)

Southern Region Sites

Albuquerque, NM (ABQ)	Amarillo, TX (AMA)	Atlanta, GA (FFC)
Birmingham, AL (BMX)	Brownsville, TX (BRO)	Corpus Christi, TX (CRP)
Del Rio, TX (DRT)	El Paso, TX (EPZ)	Fort Worth, TX (FWD)
Jackson, MS (JAN)	Jacksonville, FL (JAX)	Key West, FL (EYW)
Lake Charles, LA (LCH)	Little Rock, AR (LZK)	Miami, FL (MFL)
Midland, TX (MAF)	Nashville, TN (OHX)	New Orleans, LA (LIX)
Norman, OK (OUN)	San Juan, PR (SJU)	Shreveport, LA (SHV)
Tallahassee, FL (TAE)	Tampa Bay Area, FL (TBW)	

Western Region Sites

Boise, ID (BOI)	Desert Rock, NV (DRA)	Elko, NV (LKN)
Flagstaff, AZ (FGZ)	Glasgow, MT (GGW)	Great Falls, MT (TFX)
Medford, OR (MFR)	Oakland, CA (OAK)	Quillayute, WA (UIL)
Reno, NV (REV)	Salem, OR (SLE)	Salt Lake Cty, UT (SLC)
San Diego, CA (NKX)	Spokane, WA (OTX)	Tucson, AZ (TWC)

Alaska Region Sites

Anchorage, AK (AFC)	Annette, AK (ANN)	Barrow, AK (BRW)
Bethel, AK (BET)	Cold Bay, AK (CDB)	Fairbanks, AK (AFG)
King Salmon, AK (AKN)	Kodiak, AK (ADQ)	Kotzebue, AK (OTZ)
McGrath, AK (MCG)	Nome, AK (OME)	St Paul Island, AK (SNP)
Yakutat, AK (YAK)		

Pacific Region Sites

Guam (PGUM)	Hilo, HI (ITO)	Koror, Palau WCI (PTRO)
Lihue, HI (LIH)	Majuro, Marshall Island (PKMJ)	Pago Pago, Am Samoa (NSTU)
Pohnpei, ECI (PTPN)	Chuuk, ECI (PTKK)	Yap, WCI (PTYA)

Caribbean Sites

Barbados, W Indies (MKPB)	Belize City, Central America (MZBZ)	Curacao, W Indies (MACC)
Grand Cayman, W Indies (MKCG)	Kingston, W Indies (MKTD)	Nassau, Bahamas (MYNN)
St Maarten, W Indies (MACN)	San Andres Island, Colombia (MCSP)	Santo Domingo, Dom Rep (MDSD)
Trinidad, W Indies (MKPP)		

ATTACHMENT B

		WS FORM A-26 (4/94)				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE				Document Number G 49986	
ENGINEERING MANAGEMENT REPORTING SYSTEM MAINTENANCE RECORD											
General Information		1. Open Date 12 / 10 / 01	Time 0700	2. Initials JMM	3. Response Priority (check one) <input type="radio"/> Immediate <input checked="" type="radio"/> Low <input type="radio"/> Routine <input type="radio"/> Not Applicable				4. Close Date 12 / 10 / 01	Time 1900	
5. Description		Installation of Radiosonde Surface Observing Instrumentation System (RSOIS) production system.									
Equipment Information		6. Station ID ABR	7. Equipment Code RSOIS	8. Serial Number 1234		9. TM M		10. AT M	11. How Mal. 999		
12. EQUIPMENT OPERATIONAL STATUS TIMES		a. Fully Operational <input type="text"/>	b. Logistics Delay <input type="text"/>	Partly Operational <input type="text"/>		c. All Other <input type="text"/>		d. Logistics Delay <input type="text"/>	Not Operational <input type="text"/>		e. All Other <input type="text"/>
13. Parts Failure Information									14. Work Load Information		
Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint. Hrs.	Type	Staff Hrs.		
1								a. Routine			
2								b. Non-Routine			
3								c. Travel			
4								d. Misc.	12:00		
5								e. Overtime			
Miscellaneous Information		15. Maintenance Comments Completed RSOIS installation I.A.W. RSOIS Modification Note 2							16. Initials JMM		
17. SPECIAL PURPOSE REPORTING		a. Mod. No. 2	b. Mod./Act./Deact. Date 12/10/01	c.		d.		e.			
18. CONFIGURATION MGMT. REPORTING (use as directed)		ASN		Vendor Part No. (New Part)		Serial Number (Old Part)		Serial Number (New Part)			